UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,325	10/14/2003	Joanne Y. Law	10030247-1	5017

7590 02/23/2007

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER	
TRAN, DZUNG D	
ART UNIT	**PAPER NUMBER**
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	**Application No.** 10/685,325	**Applicant(s)** LAW ET AL.	
	Examiner Dzung D. Tran	**Art Unit** 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Tucker et al. U.S. Patent no. 7,027,743.

Regarding claim 1, Tucker discloses a method for synchronizing an operating characteristic of a tunable device with the wavelength of a local oscillator signal comprising:

sweeping the wavelength of said local oscillator signal across a range of wavelengths (Figure 20, step 2002);

generating a synchronization signal as said local oscillator signal is swept across said range of wavelengths (Figure 20, step 2006, col. 12, lines 4-10); and

adjusting the operating characteristic of a tunable device in response to said synchronization signal (Figure 20, step 2012);

wherein said synchronization signal is derived in an open –loop manner from a portion of said local oscillator signal that has not optically interacted with said tunable device (i.e., Figure 19 shown local oscillator signal from the local oscillator 1905 that has not optically interacted with said tunable device 1914).

Regarding claim 9, Tucker discloses in Figure 19, a system for synchronizing an operating characteristic of a tunable device with the wavelength of a local oscillator signal comprising:

a local oscillator source 1705 configured to generate a local oscillator signal;

a tunable device 1914 having an output characteristic that is tunable; and

a device controller 1930 in optical communication with a local oscillator source 1905 and in drive signal communication with said tunable device 1914, said device controller 1930 being configured to generate a synchronization signal derived in an open –loop manner from a portion of said local oscillator signal that has not optically interacted with said tunable device as said local oscillator signal is swept across a range of wavelengths and to generate a drive signal, which sets the operating characteristic of said tunable device, in response to said synchronization signal (col. 12, lines 4-10; col. 15, lines 12-60; Figure 19 shown local oscillator signal from the local oscillator 1905 that has not optically interacted with said tunable device 1914).

Regarding claims 2 and 10, Tucker discloses for setting the operating characteristic of said tunable device and the wavelength of said local oscillator signal to match each other before the wavelength of said local oscillator signal is swept across a range of wavelengths (Col. 11, lines 24-35).

Regarding claims 3 and 4, Tucker discloses generating said synchronization signal involves generating said synchronization signal in response to wavelength information that is related to said local oscillator signal and wherein generating said synchronization signal involves generating said synchronization signal in response to wavelength information that is obtained by measuring said local oscillator signal (col. 12, lines 4-10; col. 15, lines 12-60).

Regarding claims 5, 6 and 17, Tucker discloses a frequency counter 1932 of Figure 19 wherein N discrete synchronization signals are generated at wavelength-dependent intervals and wherein said wavelength-dependent intervals are defined by (wavelength.sub.2 -wavelength.sub.1)/N.

Regarding claims 7 and 18, Tucker discloses for adjusting the operating characteristic of said tunable device involves adjusting the operating characteristic in response to said N discrete synchronization signals (e.g., controller 1930 adjusting the optical preselector 1914 in response to the frequency counter 1932).

Regarding claims 8 and 12, Tucker discloses tunable device is one of a tunable optical filter, a tunable laser, and a tunable optical detector (col. 7, line 36).

Regarding claim 11, Tucker discloses in Figure 19, wherein said tunable device 1914 exhibits a repeatable relationship between its operating characteristic and an applied drive signal (e.g., f_{dither} signal).

Regarding claim 13, Tucker discloses device controller includes a clock 1946 (e.g., equivalent to wavemeter), in optical communication with said local oscillator signal 1905, which generates wavelength information related to said swept local oscillator signal.

Regarding claim 14, Tucker discloses synchronization signals are generated in response to said wavelength information (col. 14, lines 41-53).

Regarding claim 15, Tucker discloses frequency counter 1932 (e.g., equivalent to a fringe counter) connected to receive said wavelength information from said wavemeter and to generate discrete synchronization signals in response to said wavelength information and a drive signal generator connected to receive said discrete synchronization signals from said fringe counter and to generate drive signals in response to said discrete synchronization signals (col. 9, line 2 to col. 10, line 22, col. 15, lines 16-37);

wherein said synchronization signal is derived in an open –loop manner from a portion of said local oscillator signal that has not optically interacted with said tunable device (i.e., Figure 19 shown local oscillator signal from the local oscillator 1905 that has not optically interacted with said tunable device 1914).

Regarding claim 16, Tucker discloses a microprocessor 1930 connected to receive said wavelength information from said wavemeter and to generate drive signals in response to said wavelength information.

Regarding claims 19 and 21, Tucker discloses in Figure 19, a method/apparatus of system for optical heterodyne detection comprising:

a first optical path 1904 for carrying an input signal 1902;

a second optical path 1908 for carrying a local oscillator signal;

optical combining unit 1910, in optical communication with said first and second optical paths, which combines said input signal and said local oscillator signal into a combined optical signal;

a third optical path 1918, in optical communication with said optical combining unit, which carries said combined optical signal;

a photodetector 1912, in optical communication with said third optical path, which receives said combined optical signal from said third optical path;

an optical pre-selector 1914 that is optically arranged to filter an optical signal within one of said first, second, and third optical paths, said optical pre-selector having a filter wavelength (col. 7, line 36; and

a pre-selector controller 1930, in drive signal communication with said optical pre-selector, which generates a synchronization signal as said local oscillator signal is swept across said range of wavelength and which generates a drive signal for said optical pre-selector in response to said synchronization signal wherein said synchronization signal is derived in an open –loop manner from a portion of said local oscillator signal that has not optically interacted with said tunable device (i.e., Figure 19 shown local oscillator signal from the local oscillator 1905 that has not optically interacted with said tunable device 1914).

Regarding claims 20 and 22, Tucker discloses for setting the filter wavelength of an optical pre-selector 1914 and the wavelength of said local oscillator signal 1905 to match each other before the wavelength of said local oscillator signal is swept across said range of wavelengths and wherein generating said synchronization signal involves generating said synchronization signal in response to wavelength information that is related to said local oscillator signal (Col. 11, lines 24-35).

Response to Arguments

3. Applicant's arguments filed on 11/09/2006 have been fully considered but they are not persuasive.

A) Rejection claims 1-22 under 35 USC 102(e) as being anticipated by Tucker (US 7,027,743).

Applicant argues that Tucker does not teach the newly added limitation "wherein said synchronization signal is derived in an open –loop manner from a portion of said local oscillator signal that has not optically interacted with said tunable device. However, Figure 19 of Tucker clearly discloses synchronization signal is derived in an open –loop manner from a portion of said local oscillator signal that has not optically interacted with said tunable device (i.e., Figure 19 shown local oscillator signal from the local oscillator 1905 that has not optically interacted with said tunable device 1914).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran

Dzung Tran
02/09/2007

DZUNG TRAN
PRIMARY PATENT EXAMINER